DISPLAY DEVICE

Field of the Invention

The invention herein described relates to a display device for the display of items for retail sale, and more particularly to a display device with improved holding and display characteristics.

Background of the Invention

The manner in which articles are displayed for retail sale can have a dramatic impact on the sales volume of the articles. An attractive display providing convenient inspection of and access to an article will measurably increase sales volume, while a poor display which fails to attract the attention of customers or fails to show the product to best advantage will have a detrimental effect on sales figures for the items. For example, a packaged set of votive candles should be displayed in such a manner that a potential purchaser can conveniently view the color, texture, shape and design of the candles while also having quick and easy access to same.

The possible sensitive nature of the article also is an important consideration in displaying the article. For example, because the surface of an article such as a candle is susceptible to being scratched, scored or otherwise damaged, possibly making the article less attractive to a potential customer, the display device should provide adequate holding ability of the article and maintain proper spacing between the article and adjacent articles. Also, hanger type display devices may sway from side to side, for example when an article is inserted or removed from the display. If not adequately engaged by the display device, the article may slide from the display device, potentially causing the customer to lose interest in the displayed article, and possibly causing the article to become dislodged from the display device.

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Summary of the Invention

The present invention relates to a display device for holding and displaying an article, including a panel and one or more straps connected to the panel. According to an aspect of the invention, the strap is movable between an article receiving position whereat the strap and panel form a laterally extending opening for laterally receiving the article therethrough, and an article engaging position whereat the article is frictionally engaged by the strap and panel in a direction perpendicular to the laterally extending opening to restrain lateral movement of the article from the opening.

In an embodiment of the invention, the strap is biased towards its article receiving position. In a further embodiment of the invention, the strap may be automatically movable to the article engaging position by force of gravity when the article has a predetermined weight and is laterally received and subsequently released in the strap.

In an embodiment of the invention, the strap includes a suspension portion, a ledge portion and an intermediate riser portion. The suspension portion and ledge portion are connected to the panel, and the intermediate riser portion is connected to and held spaced from the panel by the suspension portion and ledge portion. When the strap is in its article receiving position the distance between the riser portion and the panel is at least greater than the depth of the article, thus enabling the article to be freely inserted into or removed from the strap. Still further, with such a construction, when the strap is in its article engaging position the riser portion and the panel engage opposite sides of the article.

According to another aspect of the invention, a display device for holding and displaying first and second adjacent articles spaced apart, includes a panel, and first and second straps. The ends of the first strap are connected to the panel such that the first strap and panel form a first laterally extending opening for laterally receiving the first article. The ends of the second strap are connected to

the panel such that the second strap and panel form a second laterally extending opening for laterally receiving the second article. The first and second straps hold the respective first and second articles relatively spaced apart in a direction perpendicular to the direction in which the first and second articles are laterally received in the respective first and second openings.

In another embodiment, to facilitate assembly of the display device, the location at which one of the ends of the first strap is connected to the panel is the same as the location at which one of the ends of the second strap is connected to the panel.

According to another aspect of the invention, a display device for holding and displaying an article, includes a panel, and first and second laterally spaced apart straps. The ends of the first and second straps are connected to the panel such that the first and second straps and panel form respective first and second laterally extending and coincidental openings for laterally receiving the article therethrough. The straps are laterally spaced apart a distance less than a width of the article to enable the straps to support opposite ends of the article and to display at least a portion of the article between the straps.

In another embodiment, an information section is provided on the panel between the first and second straps. The information section may be sized such that the information section is at least partially obstructed from view when an article spans the laterally spaced apart first and second straps. An information section also may be provided on at least one of the first and second straps facing away from the panel to which the respective strap is connected.

The foregoing and other features of the invention are hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail illustrative embodiments of the invention, such being indicative, however, of but a few of the various ways in which the principles of the invention may be employed.

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Brief Description of the Drawings

Fig. 1 is a perspective view of a display device constructed in accordance with the present invention, the display device including a panel and several sets of straps connected to the panel.

Fig. 2 is a plan view of a blank of the panel of the display device of Fig. 1.

Fig. 3 is a plan view of a blank of a strap of the display device of Fig. 1.

Fig. 4 is an enlarged side elevational view showing a connection between a strap and the panel.

Fig. 5 is a side elevational view of a portion of the display device of Fig. 1, showing a strap thereof in an article receiving position.

Fig. 6 is a side elevational view of a portion of the display device of Fig. 1, showing a strap thereof in an article engaging position whereby an article is engaged on opposite sides by the strap.

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Detailed Description

Referring now in detail to the drawings, and initially to Fig. 1, there is shown a display device 10 constructed in accordance with the present invention. The display device 10 includes a panel 12 and six sets of vertically aligned laterally spaced apart straps 14 connected to the panel 12. Advantageously, each set of laterally spaced apart straps 14 provides a display area therebetween, indicated generally at reference number 16, for display of an article 20 held by the straps 14. When the article 20 is removed or otherwise not disposed between laterally spaced apart straps 14 an information section 22 on the panel 12 is exposed. Also, the straps 14 of the display device 10 are movable between an article receiving position whereat the straps 14 facilitate easy insertion and removal of the article 20, and an article engaging position whereat the straps 14 resist lateral movement of the article 20 from the straps 14 and thereby hold the article 20. These and other structure, function and features of the display device 10 are described in greater detail below.

In the illustrated embodiment, the article 20 is a packaged set of four votive candles, whereby a votive candle set may be held and displayed. However, the underlying principles of the invention may be adapted to and used for other articles with advantageous results.

In an exemplary use of the display device 10, the straps and/or other parts thereof are adjusted to receive and to retain articles, such as votive candle sets 20, for convenient relatively protected retention of the articles and to facilitate displaying them on a rack, shelf, or the like. As articles 20 are removed from the display device, e.g., as they are purchased, the remaining articles are securely retained in the display device 10. The strap 14 is able to receive an article 20 which is not of a precise shape, due to the flexibility of the strap 14 and the different heights between the connection points of the strap 14 to the panel 12 and the distal ends of the strap 14, which enable the front portion of the strap 14 to be moved upwardly or downwardly in the illustrated embodiment. Also, due to its flexibility, once an article 20 is mounted in the strap 14, the article 20 is frictionally engaged by the surface of the panel 12, the bottom or ledge portion of the strap 14, and the front portion of the strap 14. The flexibility of the strap 14 also enables it to be moved to release the frictional engagement and to thereby enable removal of the article.

Information sections are used to attract the attention of customers and/or to provide information about the articles 20. As articles 20 are removed from the display device 10, information sections once obstructed from view by the removed articles 20 become viewable and provide information about the removed articles 20. In the illustrated exemplary embodiment, the information sections on the panel read "Spiced Apple" and each is accompanied by a colorful arrangement of apples. The information sections on the left strap 14 read "4 VOTIVE CANDLES," and the information sections on the right strap 14 read "15 HOURS Approx. BURNING TIME EACH CANDLE."

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Referring to Fig. 2, the panel 12 may be made of cardboard or any suitable material with a relatively flat construction. The panel 12 has an elongated generally rectangular shape and is provided with seven sets of laterally spaced-apart slots 26 disposed in opposite side portions of the panel 12. The slots 26 in each side portion are vertically aligned and equally vertically spaced apart by a distance H1. A plurality of information sections 22 are provided on the panel 12 centrally disposed within each rectangular portion defined by vertically adjacent slots 26 and laterally adjacent slots 26.

Details of a strap 14 in accordance with the invention are shown in Fig. 3. Like the panel 12, each strap may be made of cardboard although other materials of a flat construction may be suitable. Each strap 14 includes tabs 40 and 42 at its opposite ends and a suspension portion 50, a ledge portion 52 and an intermediate riser portion 54 disposed between the tabs 40 and 42. Each tab 40 and 42 and portion 50, 52, 54 is connected to its adjacent tab and/or portion or portions by creased fold lines 60, 61, 62 and 63 as shown, indicated in Fig. 3 by dashed lines. Each tab 40 and 42 is slightly smaller in width than the slots 26 in the panel 12 to which they correspond. Also, the tab 40 is less in width than the suspension portion 50 to which it is connected, and the tab 42 is less in width than the ledge portion 52 to which it is connected. The suspension portion has a length D1 and the ledge portion has a length D2. The intermediate riser portion has a height H2 which, as described more fully below, is less than the distance H1 between vertically adjacent slots 26 (Fig. 1). An information section 55 is provided on the front face of each riser portion 54 of the strap 14, also described more fully below.

To connect a strap 14 to the panel 12, first the tabs 40 and 42 are folded inwardly towards one another along the respective creased fold lines 60 and 63, and the suspension portion 50 and the ledge portion 52 are folded inwardly towards one another along the respective creased fold lines 61 and 62. The tabs 40 and 42 are then inserted into respective vertically adjacent slots 26 in the

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panel 12 (see Fig. 4) until edge portions 70 and 73 of the respective suspension portion 50 and ledge portion 52 abut the panel 12 at opposite sides of the slots 26 into which the respective tabs 40 and 42 are inserted. The tabs 40 and 42 are then further folded inwardly (or outwardly) towards the rear face of the panel 12 until each tab 40 and 42 abuts the rear face of panel 12. Each tab 40 and 42 is then connected to the rear face of the panel 12 by, for example, a staple 75 or other suitable connecting member. In the illustrated embodiment slots 26 that are intermediate the ends of the panel 12 accommodate a tab 40 from one strap 14 and a tab 42 from an adjacent strap 14.

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Referring now to Figs. 1, 5 and 6, it will be recognized that a laterally extending opening 80 having a quadrilateral shape in transverse cross section is formed by the panel 12 serving as a first wall and the suspension portion 50, intermediate riser portion 54, and the ledge portion 52 of the strap 14 serving as the three other walls. For laterally adjacent straps 14, as is illustrated most clearly in Fig. 1, the laterally extending openings 80 of the laterally spaced apart straps 14 are coincidental relative to one another.

The strap 14 is movable, and accordingly the opening 80 adjustable in size and shape, owing to the creased fold lines 60, 61, 62 and 63 between adjacent portions 50, 52, 54 or between portions 50 and 52 and the respective tabs 40 and 42, functioning as hinges, or pivot axes. In accordance with the invention, the strap 14 is movable between an article receiving position, indicated in the illustrated embodiment generally at reference number 82 (Figs. 1 and 5), and an article engaging position, indicated in the illustrated embodiment generally at reference number 84 (Figs. 1 and 6).

The lengths D1 and D2 of the respective suspension portion 50 and ledge portion 52, the height H2 of the riser portion 54, and the distance H1 between connection junctions on the panel 12, are selected in accordance with the invention such that when the strap 14 is in its article receiving position 82 the depth D3 of the opening 80 is slightly greater than the depth A1 of the article 20,

and the height H2 (Fig. 3) of the riser portion 54 is slightly greater than the height A2 of the article 20. As is illustrated in Figs. 1 and 5, this enables the article 20 to be freely inserted into or removed from the opening 80, this being represented by the arrow marked with an "I" in Fig. 1.

The lengths D1 and D2, and the heights H1 and H2 (i.e., the walls of the quadrilateral shaped opening) also are selected such that when the strap 14 is moved to its article engaging position 84 the intermediate riser portion 54 engages a front face of the article 20 in a direction perpendicular to the direction of insertion of the article 20 (represented by the arrow marked with an "F" in Fig. 1), and urges the article 20 into engagement with the panel 12. As shown in Fig. 6, the strap 14 and panel 12 engage opposite side faces (i.e., the front and rear) of the article 20. This engagement resists lateral movement of the article 20 from the opening 80, thereby to hold the article 20 in the article engaging position 84.

It will be appreciated that the engaging or capturing of the article 20 is facilitated by the quadrilateral shaped cross section of the opening 80. Thus, for example, with reference to Fig. 6, when the suspension portion 50 and ledge portion 52 are moved counterclockwise relative to their respective connections to the panel 12 (e.g., as the strap 14 is moved downwardly in Fig. 6), the intermediate portion 54 engages the front face of the article 20 near the suspension portion 50. Similarly, when the suspension portion 50 and ledge portion 52 are moved clockwise relative to their respective connections to the panel 12 (e.g., as the strap 14 is moved upwardly in Fig. 6), the intermediate portion 54 engages the front face of the article 20 in the vicinity of the ledge portion 52 (not shown).

In the illustrated embodiment the strap 14 is made of a sufficiently stiff cardboard material such that the strap 14 is biased to its flat or unfolded configuration shown in Fig. 3. Accordingly, the suspension portion 50 and the ledge portion 52 are biased outwardly away from one another (Fig. 5) which, in turn, urges the intermediate riser portion 54 outwardly away from the panel 12.

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Thus, the strap 14 is biased towards its article receiving position 82 shown in Fig. 5. Also, in the illustrated embodiment the material of the strap 14 is selected such that when the article 20 is inserted into the opening 80 and allowed to rest on the ledge portion 52, the strap 14 will move to its article engaging position 84 by the weight of the article 20 (i.e., the force of gravity) which overcomes the bias exhibited by the strap 14 towards its article receiving position 82. It also will be appreciated that the strap 14 may have a greater thickness or be made of alternative or additional materials to accommodate, for example, a heavier article. To this end, the material of the strap 14 in the illustrated embodiment may be based or selected, for example, on the weight of the article 20, the desired amount of bias in the strap 14, and/or the desired amount of frictional engagement between the strap 14 and the article 20.

It will be appreciated that the opening 80 need not necessarily be quadrilateral shaped in transverse cross section as illustrated, so long as the strap 14 is movable, and accordingly the opening 80 adjustable, between a first position 82 to laterally receive the article 20 and a second position 84 to engage the article 20 in a direction transverse to the direction in which the article 20 is received by the strap 14. Thus, for example, another means by which this may be accomplished is via a flexible continuous strap (i.e., no creased fold lines) with the ends of the strap connected to the panel and whereby the strap is sufficiently expandable to laterally receive the article and sufficiently retractable to engage and laterally restrain the article.

It further is noted that although in the illustrated embodiment there is shown a pair of straps 14 supporting the article 20 at opposite ends thereof, it will be appreciated that a single strap may be used to support the article 20 to achieve the same effect of engagement of opposite sides of the article 20 as above-described, and such single strap is contemplated as falling within the scope of the present invention.

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Referring again to Fig. 1, as was noted above, the display device 10 has six vertically aligned straps 14 on opposite side portions of the panel 12. In the illustrated embodiment the suspension portion 50 and ledge portion 52 of each strap 14 are tapered inwardly towards one another and away from the panel 12 to form a somewhat trapezoidal shaped opening in transverse cross section. This gives rise to a space between vertically adjacent straps 14, and more particularly a space between the distal ends of the riser portions 54 thereof, when the straps 14 are in their article receiving positions 82. This space is maintained when the straps 14 are moved to their article engaging positions 84, whether via gravity or otherwise, provided the vertically adjacent straps 14 are moved in the same direction, for example, provided the straps 14 in the Fig. 1 display device 10 are moved downwardly. This vertical space advantageously provides protection of an article 20 being held in one strap 14 from contact by an article 20 being held in a vertically adjacent strap 14. This is particularly advantageous if the articles, such as the as shown votive candle sets, are susceptible to surface defacing if contacted.

Still referring to Fig. 1, in the illustrated embodiment the straps 14 also are laterally spaced apart a distance W1, which is less than a width W2 of the article 20. This relationship enables the article 20 to sufficiently span the space between the straps 14, and therefore to be engaged by the straps 14 when the straps 14 are moved to their article engaging positions 84. Moreover, this relationship also advantageously displays that portion of the article 20 existing between the straps 14, thereby providing a potential customer with an opportunity to examine the article 20 for aesthetics or inspect the article for damage.

In accordance with the invention, the display device 10 also provides information sections 30 and 55. With the article 20 inserted in the openings 80 of the laterally spaced apart straps 14, the article 20 covers the information section 30 therebehind on the panel 12. After the article 30 is removed from the laterally spaced-apart straps 14, the information section 30 is exposed and thus

observable to a prospective purchaser. In the illustrated embodiment, the information section 30 is the same as the information provided on the article 20 so that in the event the article 20 is sold or otherwise no longer in the display device 10 (for example, the article 20 has been removed and the respective information section 30 exposed) a prospective purchaser can observe from the information section 30 that the merchant may sell the article 20 in the future.

The information section 55 is on the outer face of the riser portion 54 of each strap 14. The information section 55 may provide additional information about the product or, like the information section 30, provide the same information as that provided on the article 20 so that a prospective purchaser can observe from the information section 55 the merchant may sell the article 20 in the future.

The display device 10 is relatively easy to manufacture and to assemble. As was mentioned above, the panel 12 and straps 14 may be made of cardboard and connected together via staples or the like. In a display device in which the straps 14 are vertically adjacent, as illustrated, each slot 26 accommodates a tab 40 from one strap 14 and a tab 42 from the vertically adjacent strap 14, making assembly of the display device 10 straightforward. The straps 14 may be individually replaced in the event they are damaged.

Although the invention has been shown and described with respect to certain embodiments, equivalent alterations and modifications will occur to others skilled in the art upon reading and understanding this specification and the annexed drawings. In particular regard to the various functions performed by the above described integers (components, assemblies, devices, compositions, etc.), the terms (including a reference to a "means") used to describe such integers are intended to correspond, unless otherwise indicated, to any integer which performs the specified function of the described integer (i.e., that is functionally equivalent), even though not structurally equivalent to the disclosed structure which performs the function in the herein illustrated exemplary embodiments of the invention. In addition, while a particular feature of the invention may have been described

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above with respect to only one of several illustrated embodiments, such feature may be combined with one or more other features of the other embodiments, as may be desired and advantageous for any given or particular application.

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